查询ZXTN2010G供应商

ZXTN2010G

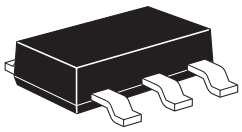
60V NPN MEDIUM POWER LOW SATURATION TRANSISTOR IN SOT223

SUMMARY

BV_{CEO} = 60V : R_{SAT} = 35mΩ; I_C = 6A

DESCRIPTION

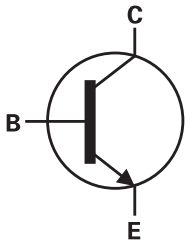
Packaged in the SOT223 outline this new low saturation 60V NPN transistor offers extremely low on state losses making it ideal for use in DC-DC circuits and various driving and power management functions.



SOT223

FEATURES

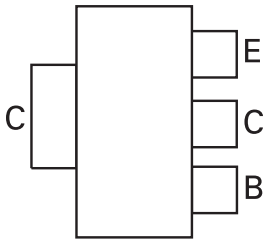
- Extremely low equivalent on-resistance; **R_{SAT} = 35mV at 6A**
- 6 amps continuous current
- Up to 20 amps peak current
- Very low saturation voltages
- Excellent h_{FE} characteristics up to 10 amps



APPLICATIONS

- Emergency lighting circuits
- Motor driving (including DC fans)
- Solenoid, relay and actuator drivers
- DC Modules
- Backlight Inverters

PINOUT



TOP VIEW

ORDERING INFORMATION

DEVICE	REEL SIZE	TAPE WIDTH	QUANTITY PER REEL
ZXTN2010GTA	7”	12mm embossed	1000 units
ZXTN2010GTC	13”		4000 units

DEVICE MARKING

ZXTN
2010

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ZETEX SEMICONDUCTORS

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	LIMIT	UNIT
Collector-base voltage	BV_{CBO}	150	V
Collector-emitter voltage	BV_{CEO}	60	V
Emitter-base voltage	BV_{EBO}	7	V
Continuous collector current [a]	I_C	6	A
Peak pulse current	I_{CM}	20	A
Power dissipation at T_A =25°C [a]	P_D	3.0	W
Linear derating factor		24	mW/°C
Power dissipation at T_A =25°C [b]	P_D	1.6	W
Linear derating factor		12.8	mW/°C
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	°C

THERMAL RESISTANCE

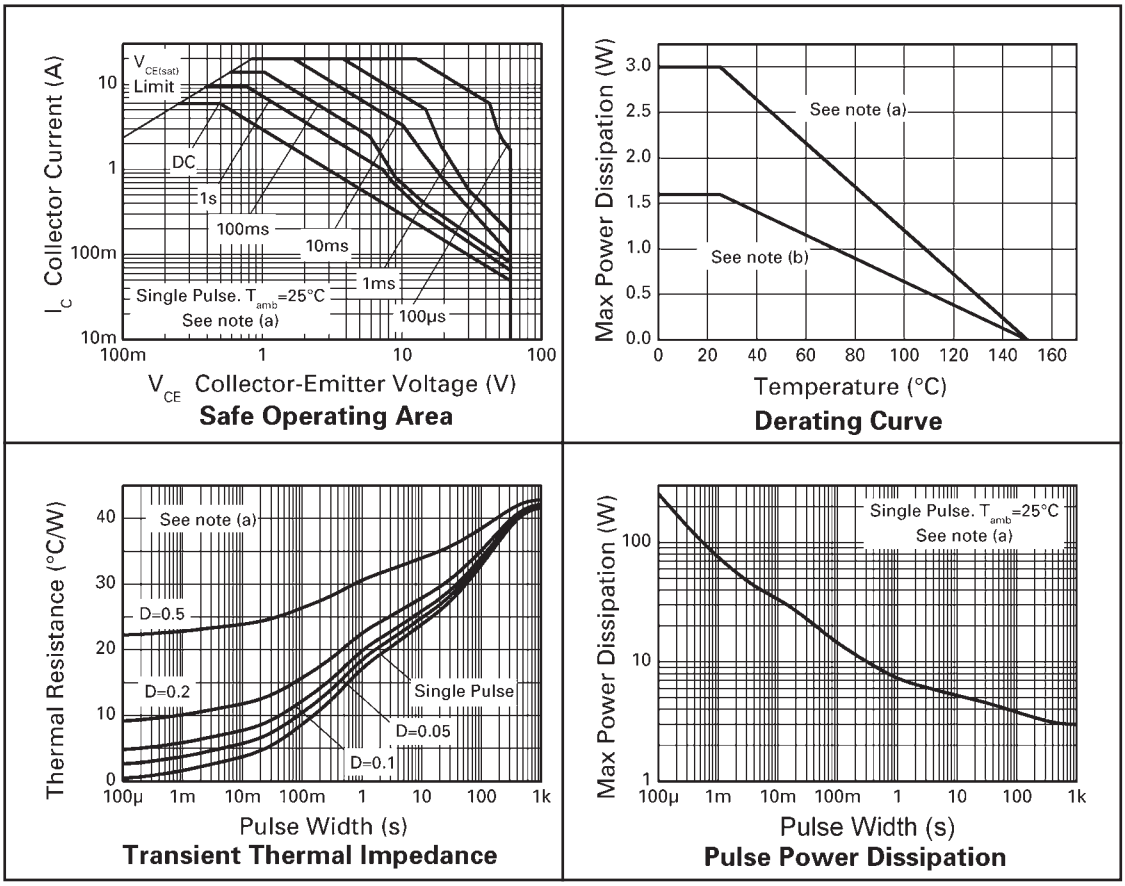
PARAMETER	SYMBOL	VALUE	UNIT
Junction to ambient [a]	$R_{\Theta JA}$	42	°C/W

NOTES

(a) For a device surface mounted on 52mm x 52mm x 1.6mm FR4 PCB with high coverage of single sided 2oz copper, in still air conditions.

(b) For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.

CHARACTERISTICS



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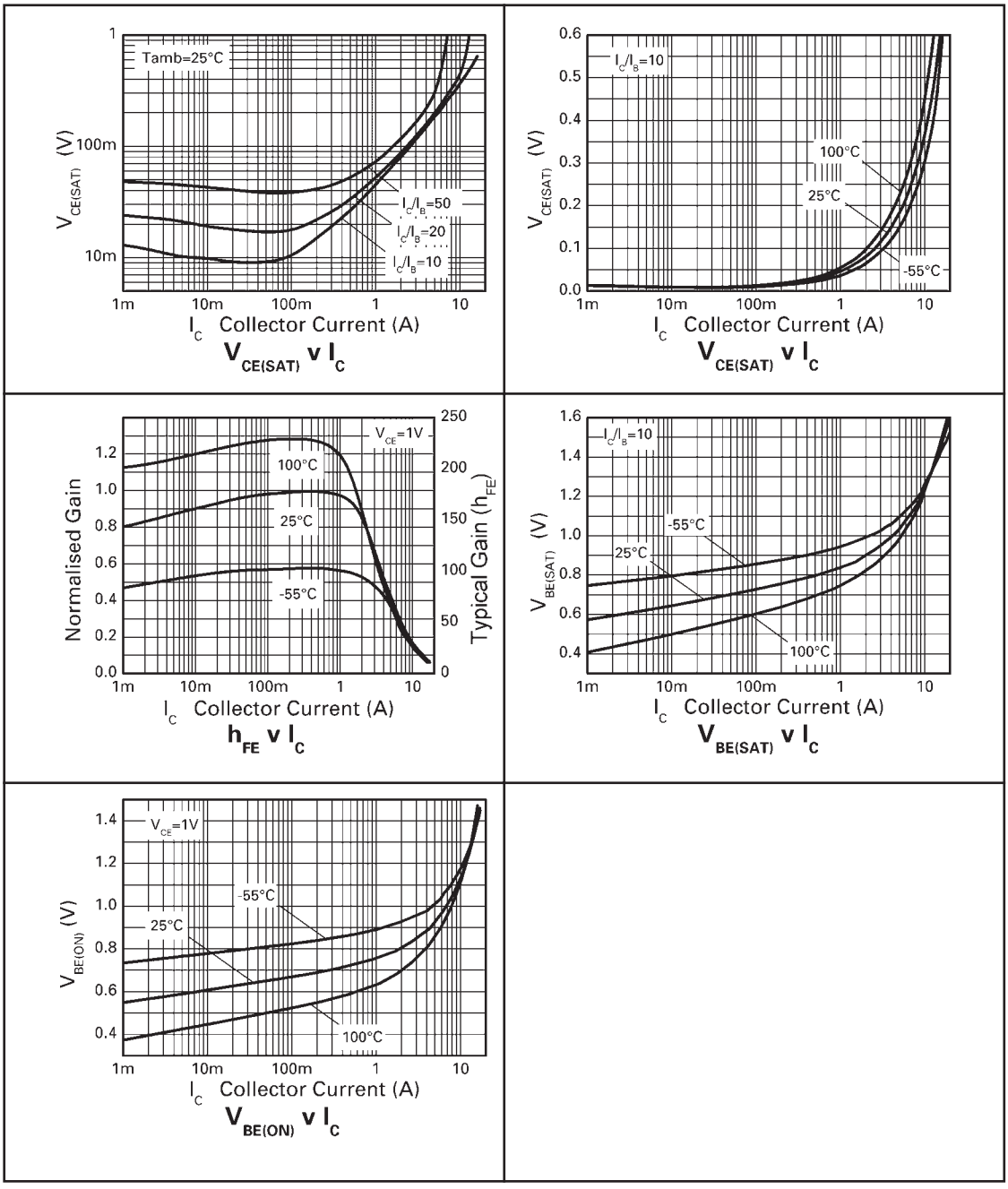
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-base breakdown voltage	BV_{CBO}	150	190		V	I_C=100μA
Collector-emitter breakdown voltage	BV_{CER}	150	190		V	I_C=1μA, RB≤1kΩ
Collector-emitter breakdown voltage	BV_{CEO}	60	80		V	I_C=10mA*
Emitter-base breakdown voltage	BV_{EBO}	7	8.1		V	I_E=100μA
Collector cut-off current	I_{CBO}			20	nA	V_{CB}=120V
				0.5	μA	V_{CB}=120V,T_{amb}=100°C
Collector cut-off current	I_{CER}			20	nA	V_{CB}=120V
	R ≤ 1kΩ			0.5	μA	V_{CB}=120V,T_{amb}=100°C
Emitter cut-off current	I_{EBO}			10	nA	V_{EB}=6V
Collector-emitter saturation voltage	$V_{CE(SAT)}$		20	30	mV	I_C=100mA, I_B=5mA*
			45	60	mV	I_C=1A, I_B=100mA*
			50	70	mV	I_C=1A, I_B=50mA*
			100	135	mV	I_C=2A, I_B=50mA*
			210	260	mV	I_C=6A, I_B=300mA*
Base-emitter saturation voltage	$V_{BE(SAT)}$		1000	1100	mV	I_C=6A, I_B=300mA*
Base-emitter turn-on voltage	$V_{BE(ON)}$		940	1050	mV	I_C=6A, V_{CE}=1V*
Static forward current transfer ratio	H_{FE}	100	200			I_C=10mA, V_{CE}=1V*
		100	200	300		I_C=2A, V_{CE}=1V*
		55	105			I_C=5A, V_{CE}=1V*
		20	40			I_C=10A, V_{CE}=1V*
Transition frequency	f_T		130		MHz	I_C=100mA, V_{CE}=10V
						f=50MHz
Output capacitance	C_{OBO}		31		pF	V_{CB}=10A, f=1MHz*
Switching times	t_{ON}		42		ns	I_C=1A, V_{CC}=10V,
	t_{OFF}		760			I_{B1}=I_{B2}=100mA

NOTES

(1) Measured under pulsed conditions. Pulse width ≤ 300μs; duty cycle ≤2%.

TYPICAL CHARACTERISTICS



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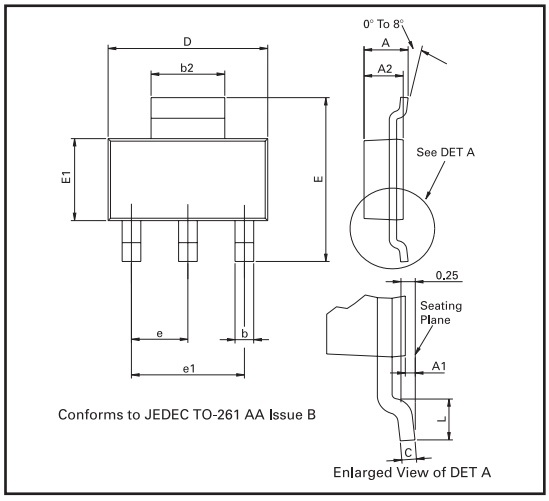
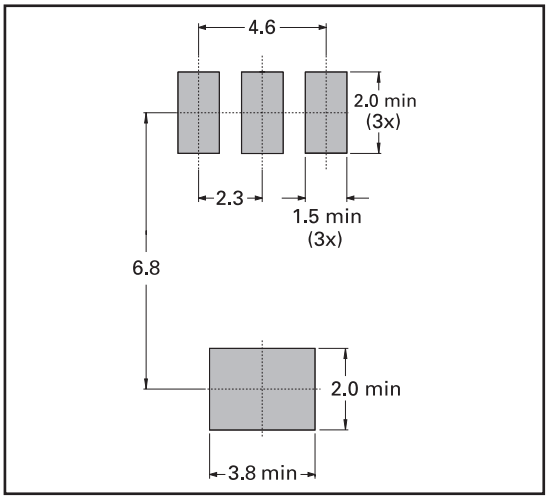
PACKAGE OUTLINE



PAD LAYOUT DETAILS



Controlling dimensions are in millimeters. Approximate conversions are given in inches

PACKAGE DIMENSIONS

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min	Max	Min	Max		Min	Max	Min	Max
A	-	1.80	-	0.071	e	2.30 BSC		0.0905 BSC	
A1	0.02	0.10	0.0008	0.004	e1	4.60 BSC		0.181 BSC	
b	0.66	0.84	0.026	0.033	E	6.70	7.30	0.264	0.287
b2	2.90	3.10	0.114	0.122	E1	3.30	3.70	0.130	0.146
C	0.23	0.33	0.009	0.013	L	0.90	-	0.355	-
D	6.30	6.70	0.248	0.264	-	-	-	-	-

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